

Having thus described the preferred embodiments, the invention is now claimed to be:

1. A method of image compression, said method  
5 comprising the steps of:

- (a) digitizing an image;
- (b) segmenting the image in a plurality of  
different manners to generate a plurality of segmented images;
- (c) compressing each of the segmented images;
- 10 (d) determining a bit rate for each of the  
compressed images;
- (e) determining how much image distortion results  
from each compression; and,
- (f) selecting the manner of segmentation which  
15 results in an optimal compromise between the rate and  
distortion.

2. The method according to claim 1, wherein the  
segmenting is carried out using a 3-layer MRC model.

3. The method according to claim 1, wherein step (e)  
further comprises:

- reconstructing the compressed image; and,
- calculating the distortion from the reconstructed  
25 image.

4. The method according to claim 3, said method further  
comprising:

- (g) re-compressing the reconstructed image  
30 corresponding to the selected manner of segmentation.

5. The method according to claim 1, said method further  
comprising:

- (g) outputting the compressed image corresponding  
35 to the selected manner of segmentation.

5           7. The method according to claim 6, wherein the weighting of the sum is set to favor one of the rate and distortion over the other.

9. An image compression system for compressing an input image, said system comprising:

25           10. The image compression system according to claim 9,  
wherein the coders of the first processors segment the image  
using a 3-layer MRC model.

11. The image compression system according to claim 9,  
wherein the optimization engine calculates the optimized  
compromise between the rate and distortion measurements using  
a cost function which is a weighted sum thereof, said  
optimization engine selecting the first processor whose  
associated cost function is lowest.

12. The image compression system according to claim 11, wherein the weighting of the sum is adjustable.

13. The image compression system according to claim 9,  
5 wherein each of the first processors further includes a decoder which reconstructs the image from the coder, said reconstructed image being a basis for the distortion measurement.

10 14. The image compression system according to claim 13, said system further comprising:

a second processing bank, said second processing bank including an array of coders, wherein the reconstructed image from the selected first processor is transmitted to a  
15 corresponding coder in the second processing bank for re-coding, said re-coding being the same as the coding carried out by the selected first processor.

15 15. The image compression system according to claim 9, wherein the compressed image from the selected first processor is output by the system.

16. The image compression system according to claim 15,  
20 wherein the image compression system is incorporated in a document processing network such that the compressed image is  
25 routed over the network to an output device in compressed form.

17. The image compression system according to claim 16,  
30 wherein the output device is selected from the group consisting of a printer, a digital copier, a xerographic copier, a fax machine, a monitor, and a storage device.